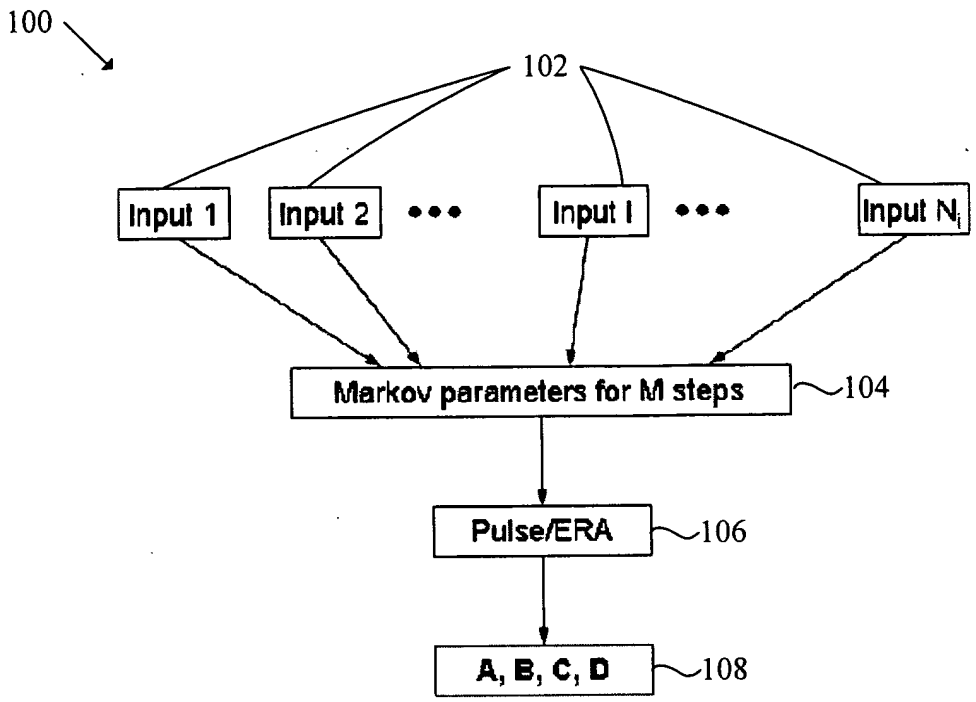

FIG. 1
(Prior Art)

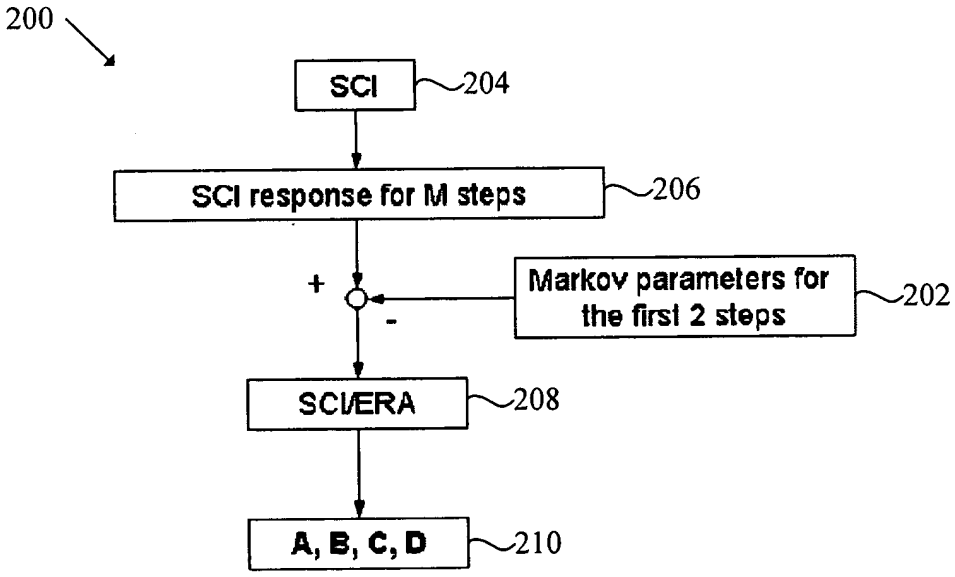

FIG. 2

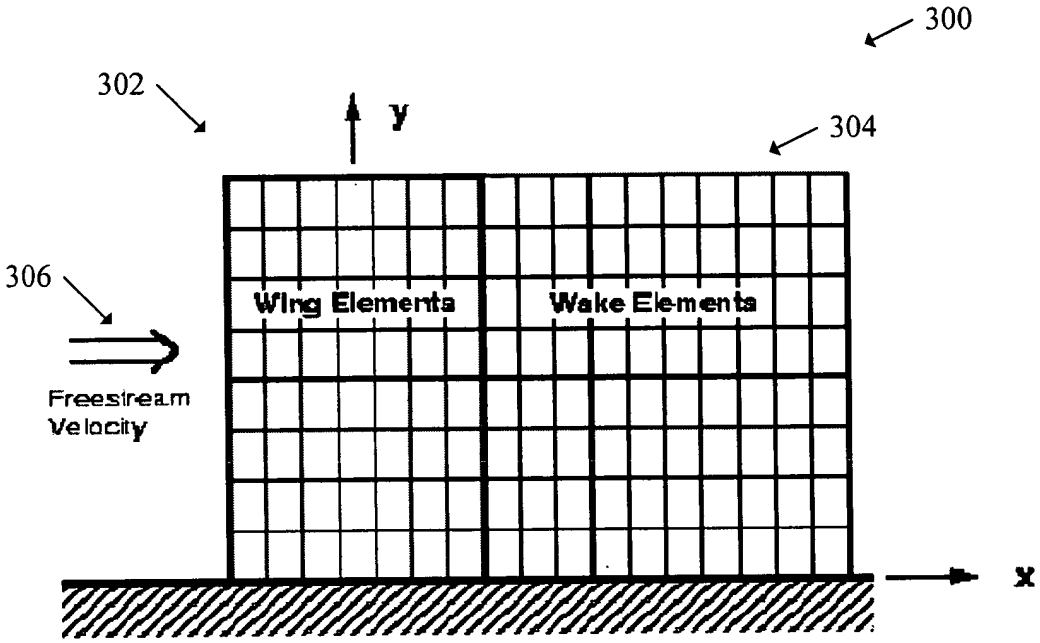
300
302
y
304
306
Wing Elements
Wake Elements
Freestream
Velocity
x

FIG. 3

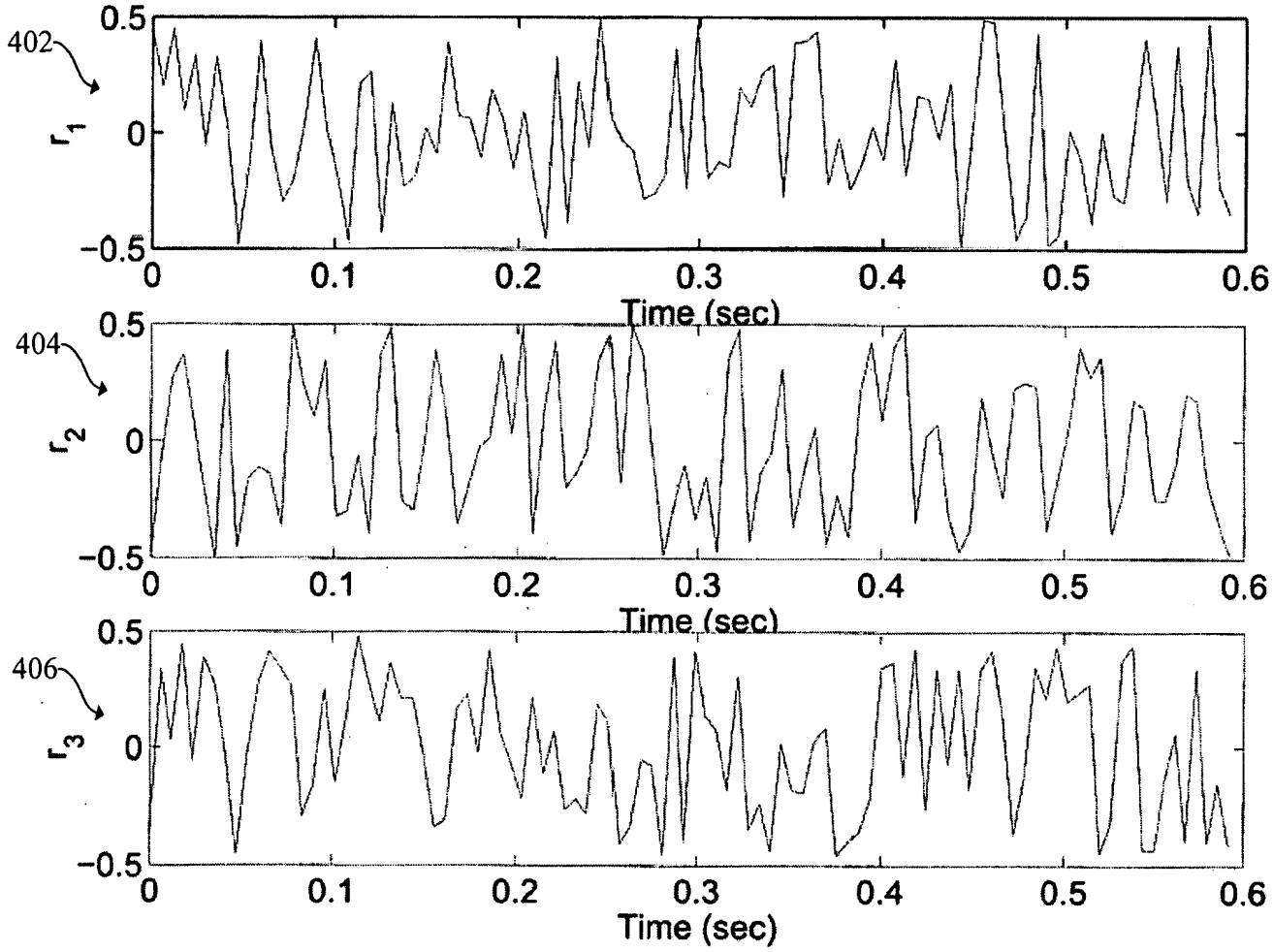

FIG. 4

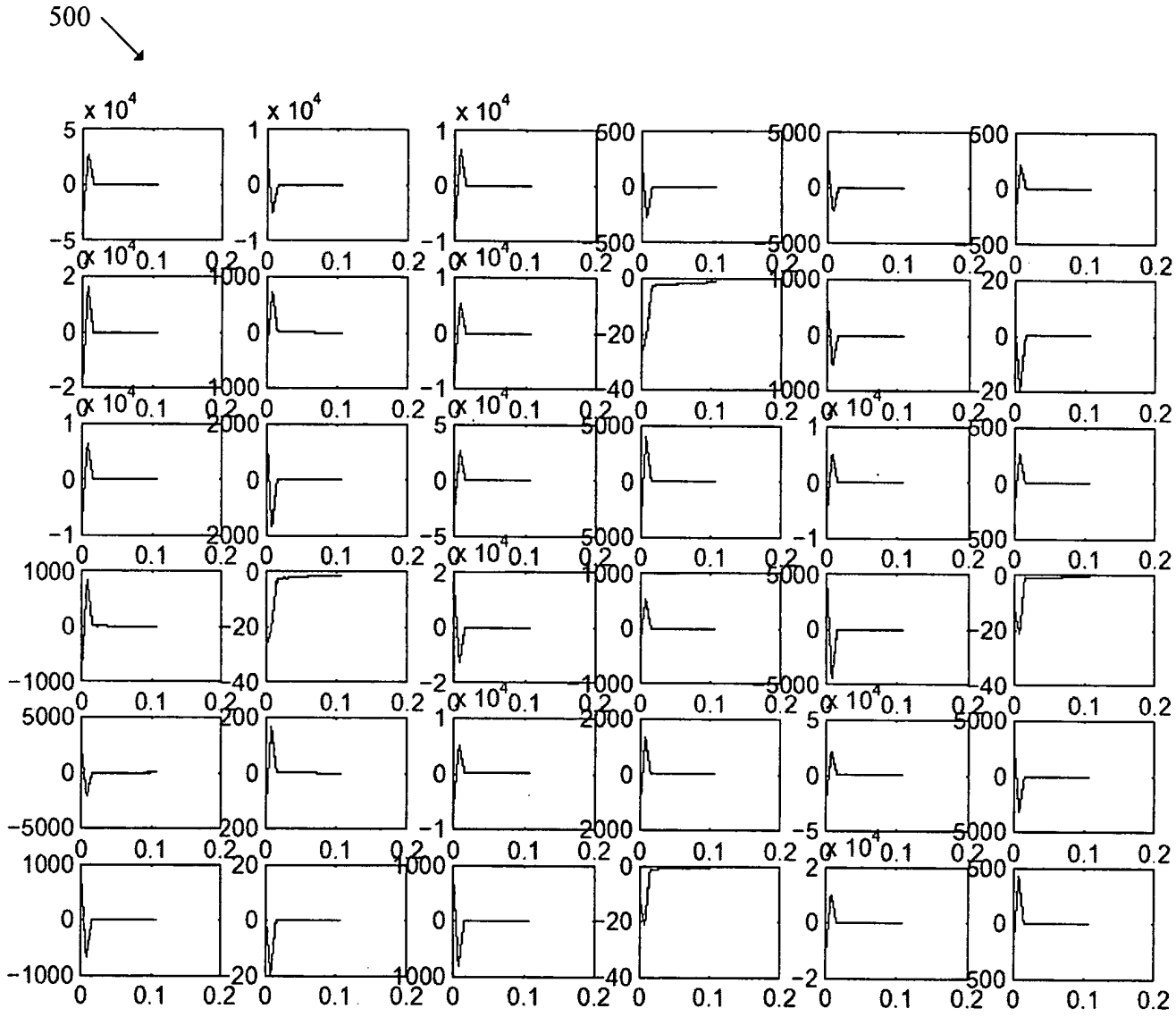

FIG. 5

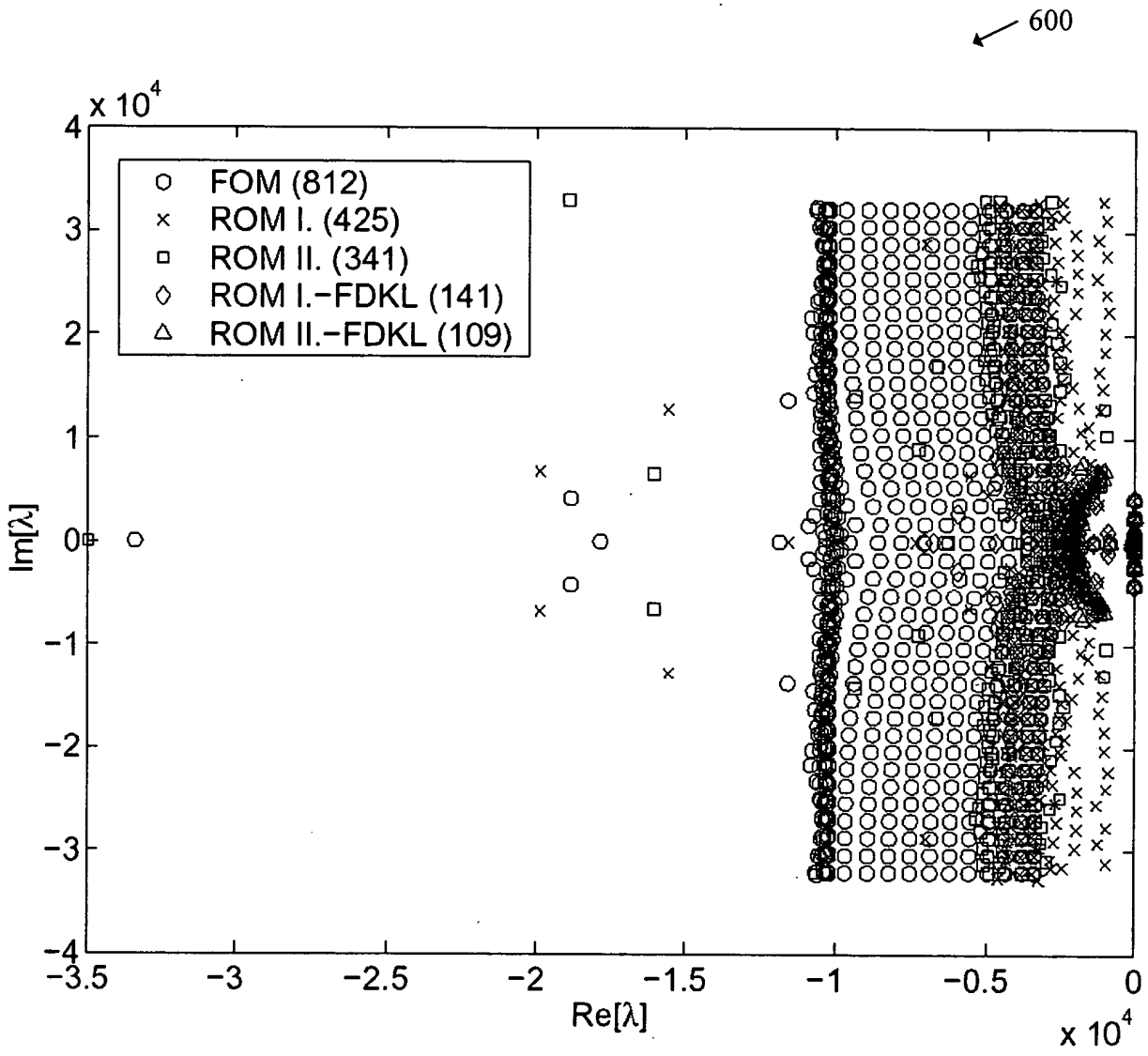
600
x 10^4
4
3
2
1
0
−1
−2
−3
−4
Im[λ]
FOM (812)
ROM I. (425)
ROM II. (341)
ROM I.−FDKL (141)
ROM II.−FDKL (109)
−3.5
−3
−2.5
−2
−1.5
−1
−0.5
0
Re[λ]
x 10^4

FIG. 6

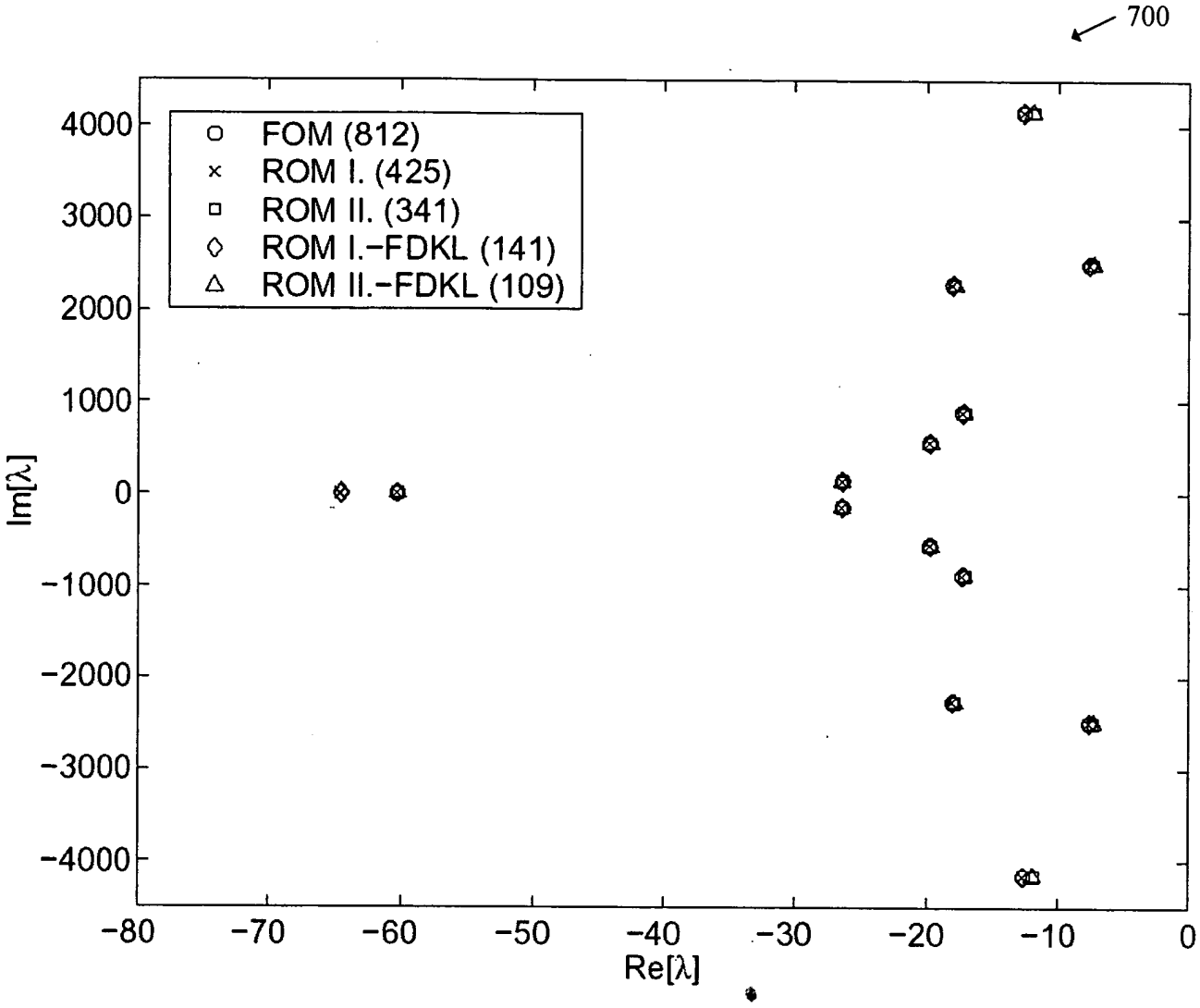
700
FOM (812)
ROM I. (425)
ROM II. (341)
ROM I.-FDKL (141)
ROM II.-FDKL (109)
4000
3000
2000
1000
0
−1000
−2000
−3000
−4000
Im[λ]
−80
−70
−60
−50
−40
−30
−20
−10
0
Re[λ]

FIG. 7

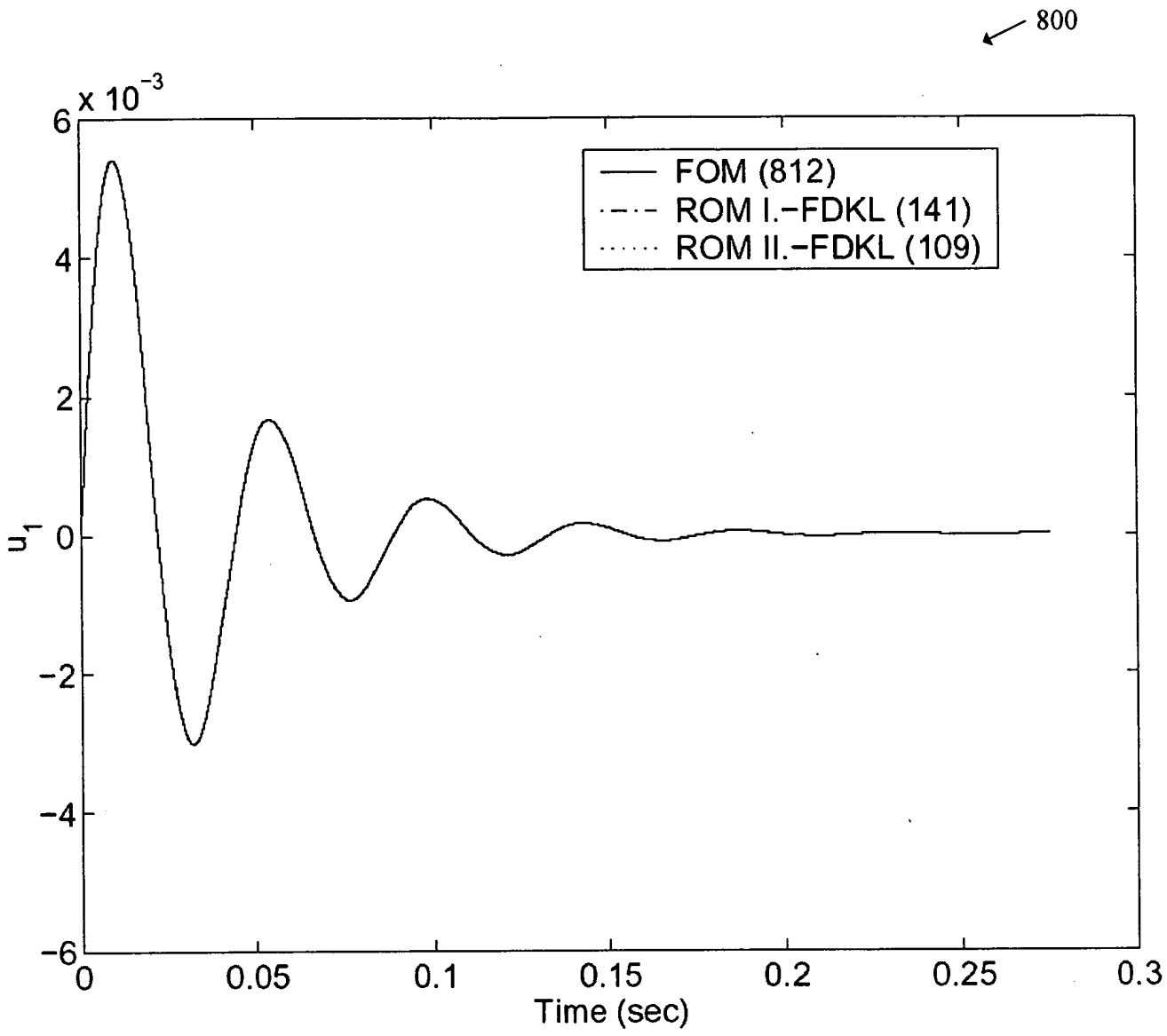
800
x 10^-3
6
4
2
0
−2
−4
−6
u_1
0
0.05
0.1
0.15
0.2
0.25
0.3
Time (sec)
FOM (812)
ROM I.−FDKL (141)
ROM II.−FDKL (109)

FIG. 8

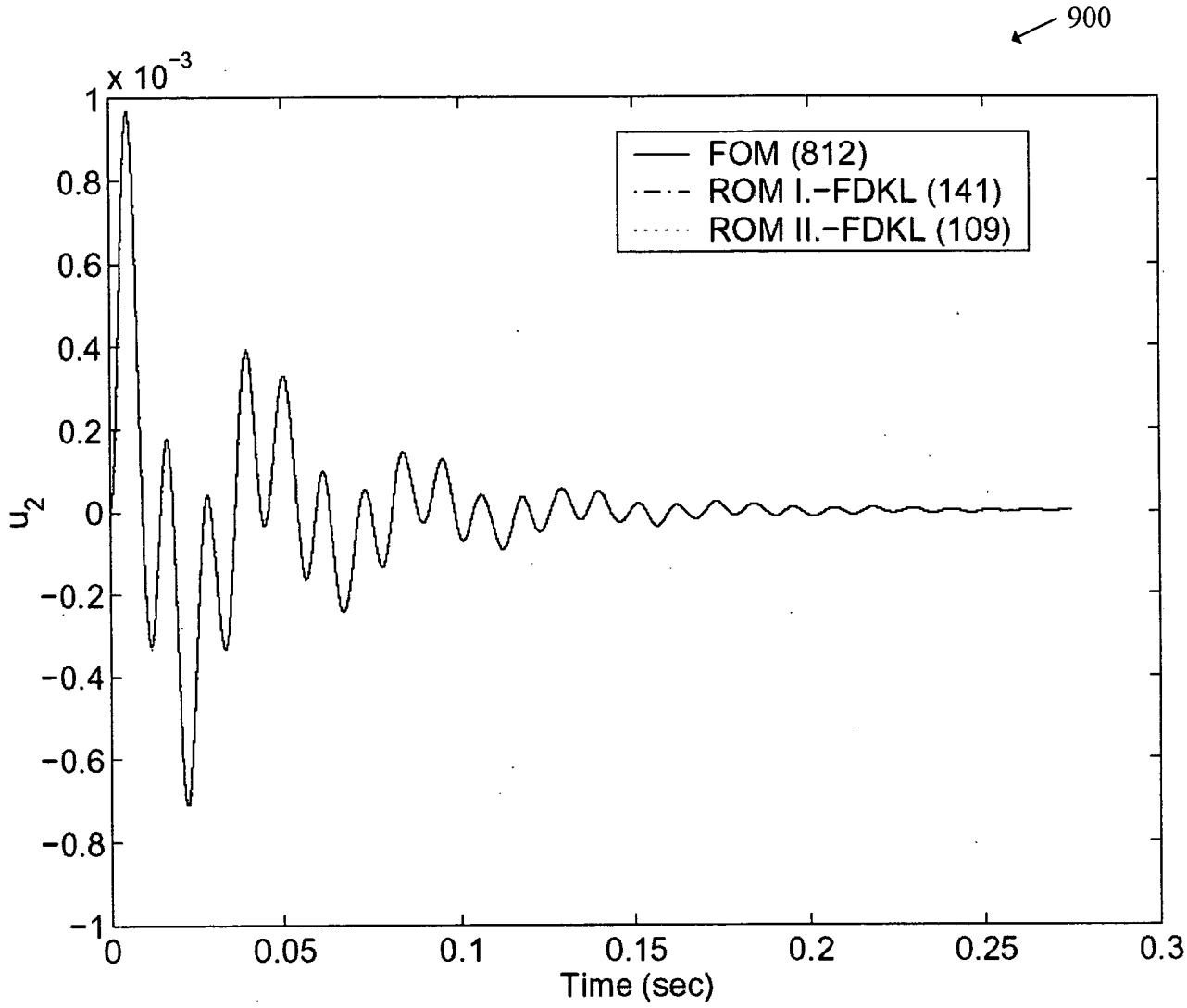
900
x 10^-3
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
u2
0
0.05
0.1
0.15
0.2
0.25
0.3
Time (sec)
FOM (812)
ROM I.-FDKL (141)
ROM II.-FDKL (109)

FIG. 9

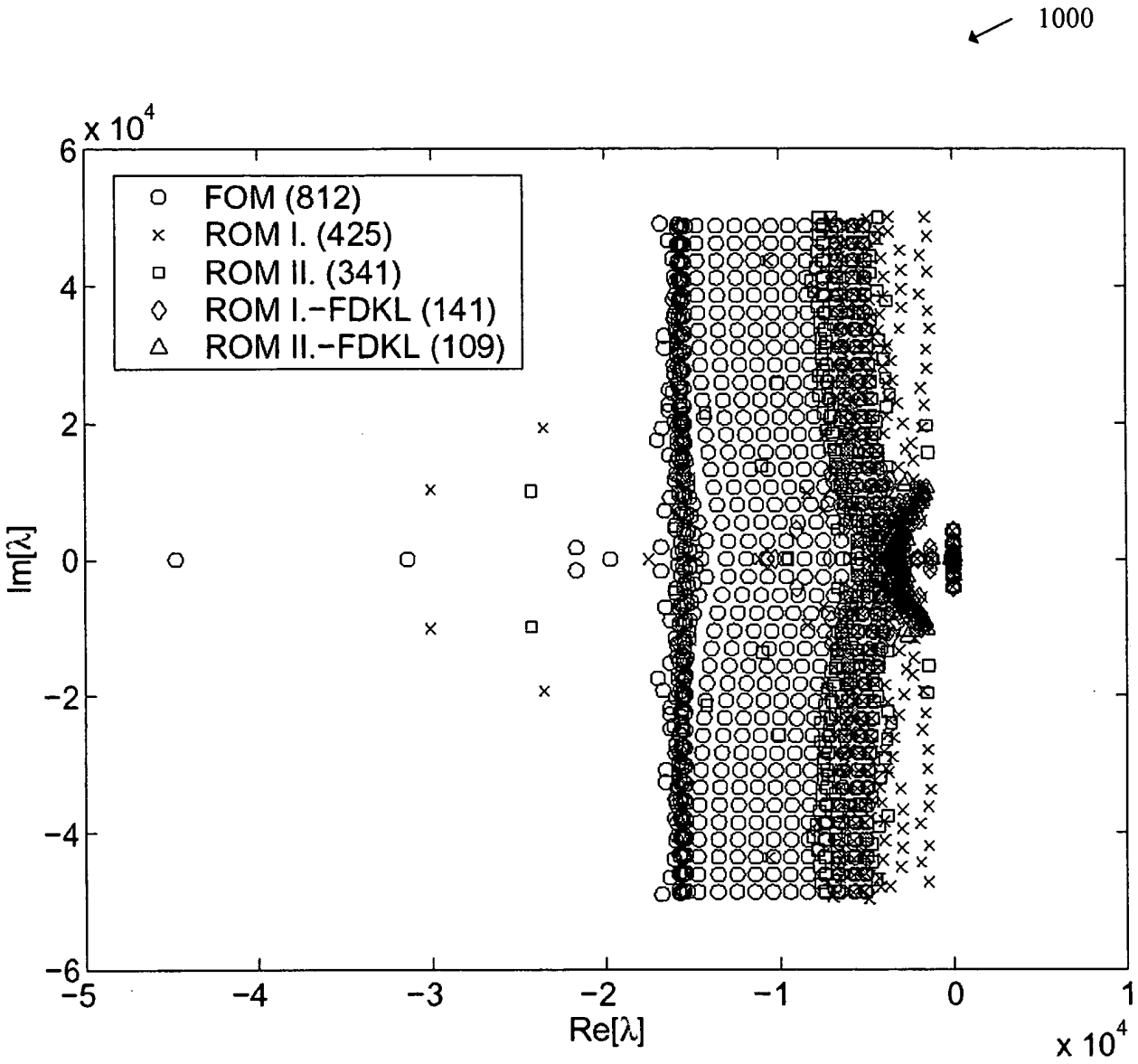
1000
x 10^4
6
4
2
0
−2
−4
−6
Im[λ]
FOM (812)
ROM I. (425)
ROM II. (341)
ROM I.−FDKL (141)
ROM II.−FDKL (109)
−5
−4
−3
−2
−1
0
1
Re[λ]
x 10^4

FIG. 10

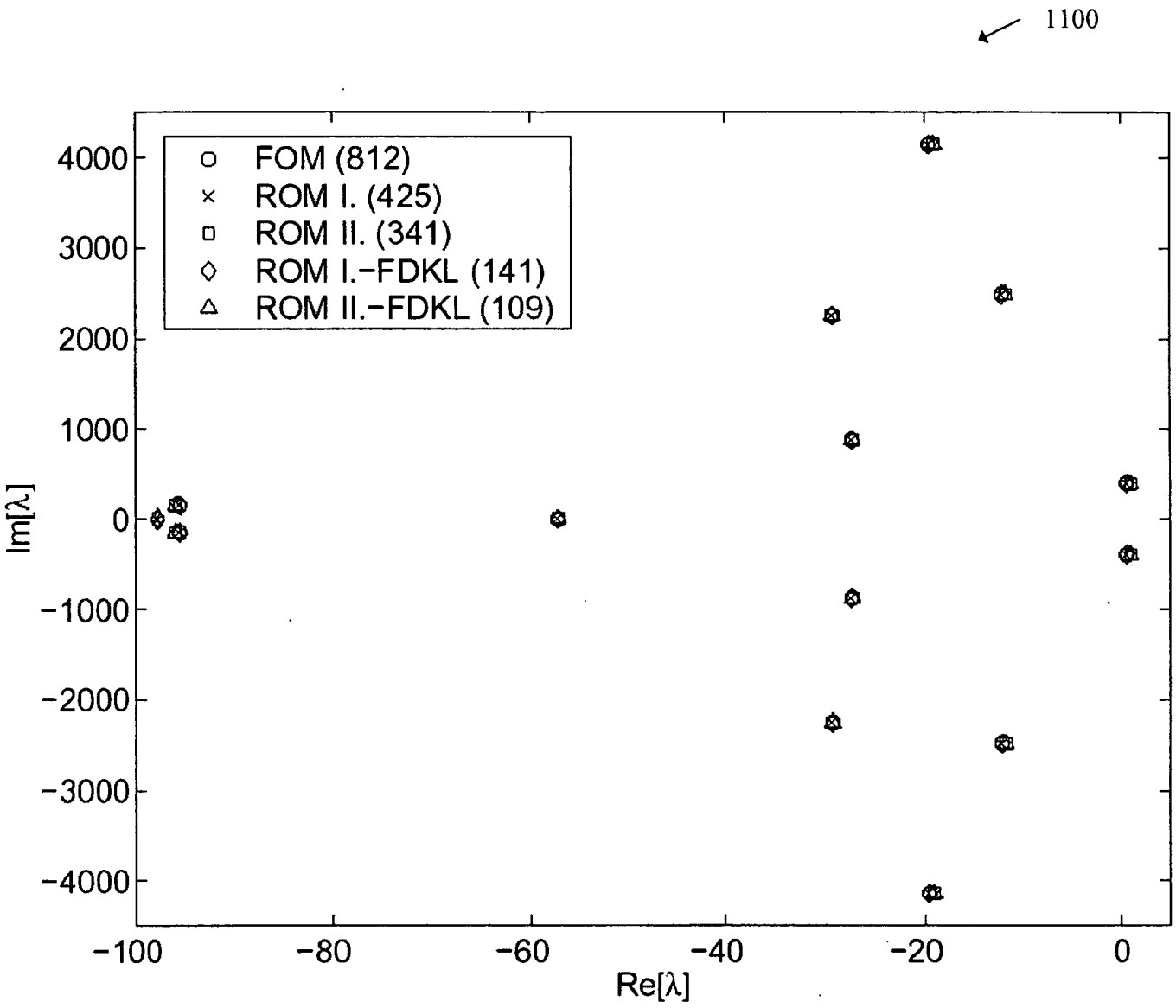
1100
FOM (812)
ROM I. (425)
ROM II. (341)
ROM I.-FDKL (141)
ROM II.-FDKL (109)
4000
3000
2000
1000
0
−1000
−2000
−3000
−4000
Im[λ]
−100
−80
−60
−40
−20
0
Re[λ]

FIG. 11

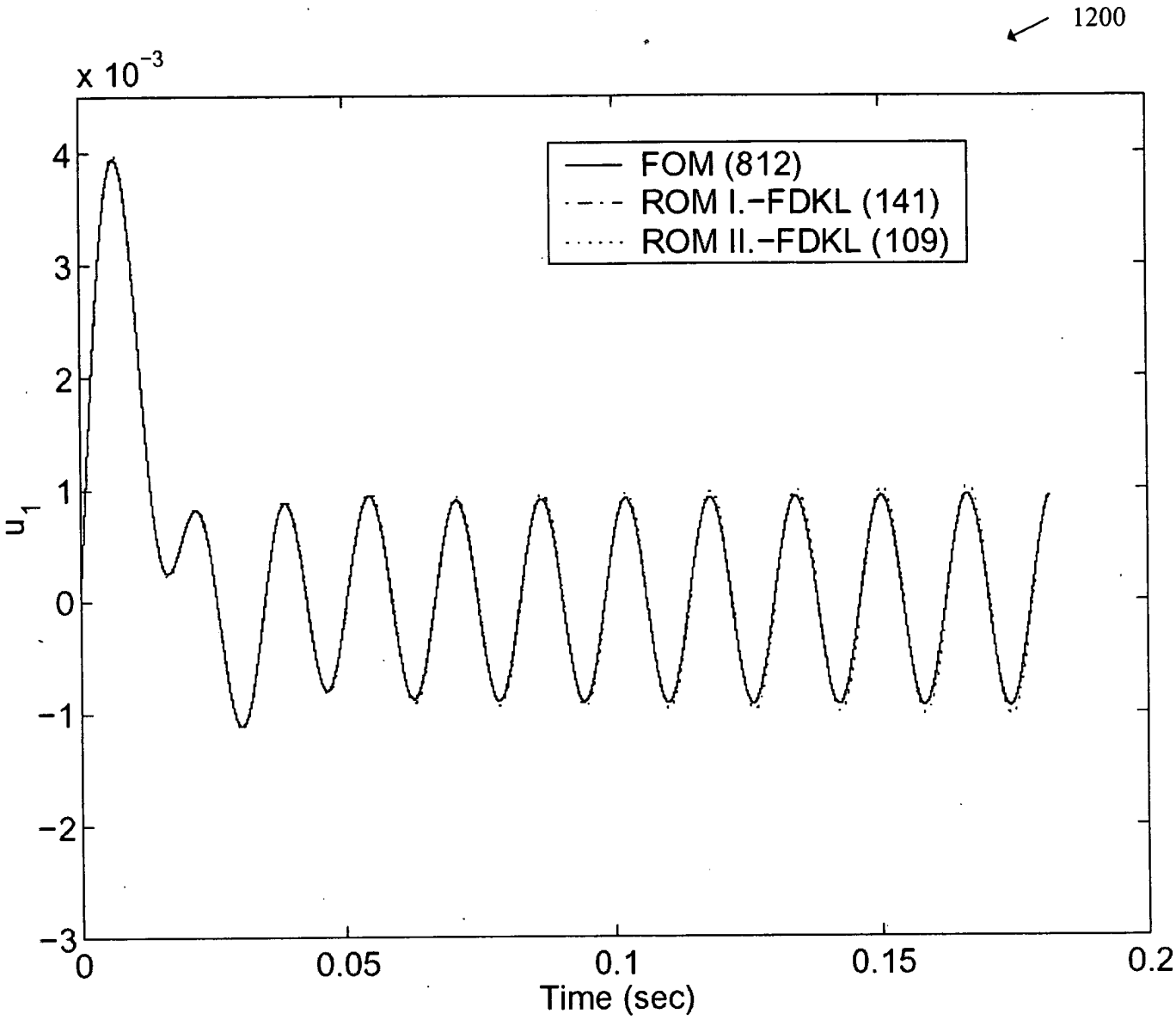
1200
x 10^-3
4
3
2
1
0
−1
−2
−3
u1
FOM (812)
ROM I.−FDKL (141)
ROM II.−FDKL (109)
0
0.05
0.1
0.15
0.2
Time (sec)

FIG. 12

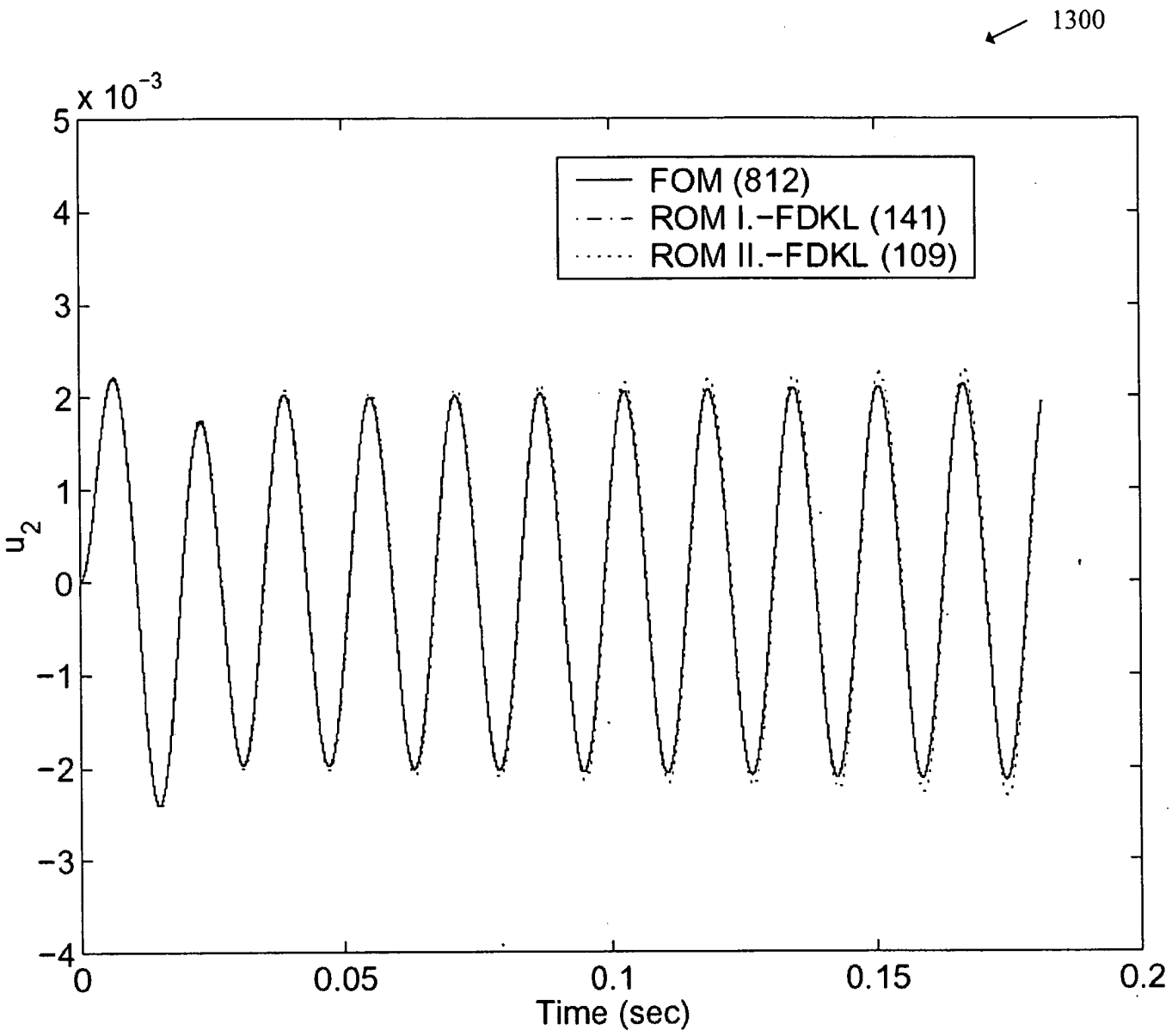
1300
x 10^-3
5
4
3
2
1
0
−1
−2
−3
−4
u2
FOM (812)
ROM I.−FDKL (141)
ROM II.−FDKL (109)
0
0.05
0.1
0.15
0.2
Time (sec)

FIG. 13

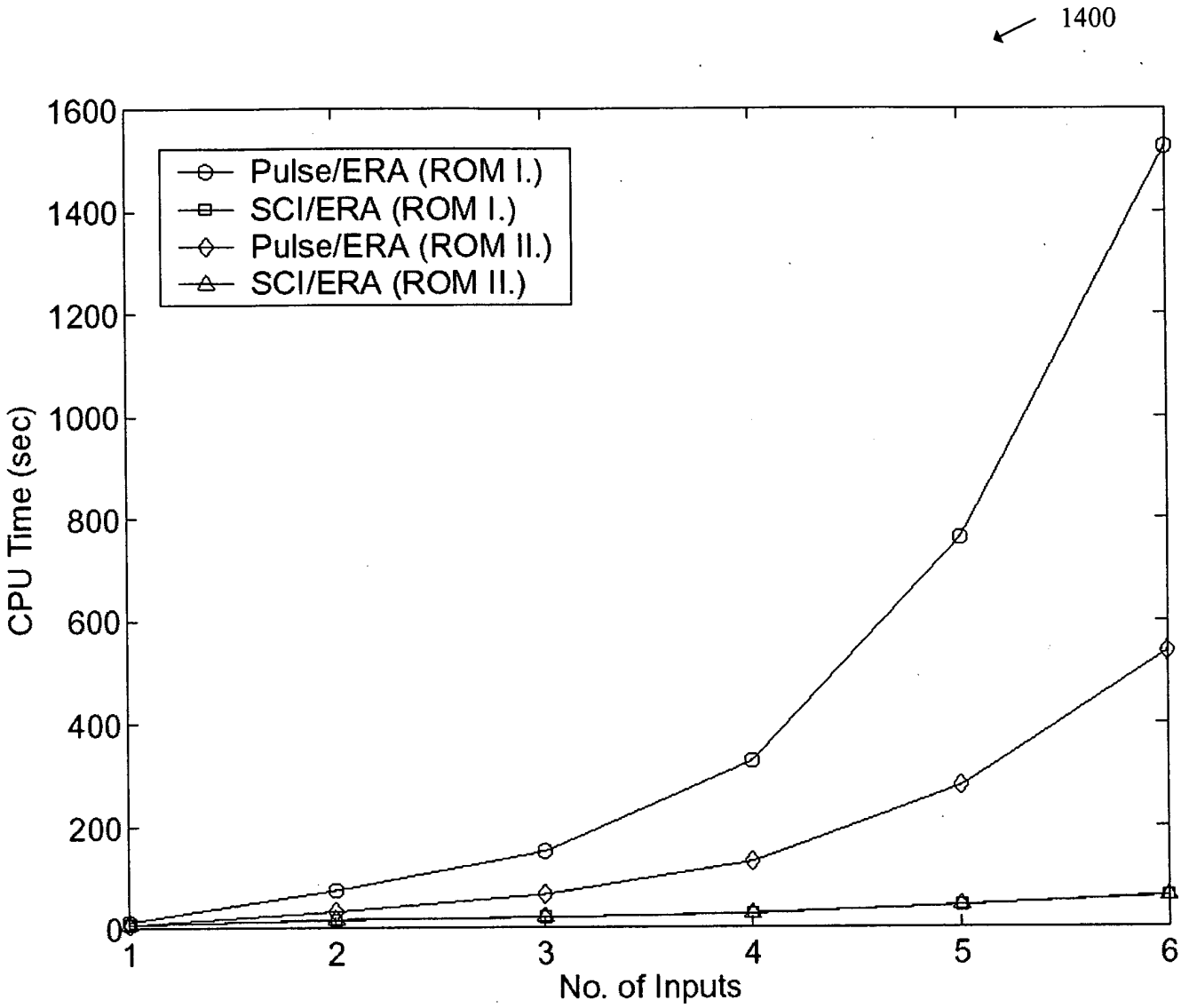
1400
Pulse/ERA (ROM I.)
SCI/ERA (ROM I.)
Pulse/ERA (ROM II.)
SCI/ERA (ROM II.)
CPU Time (sec)
No. of Inputs
0
200
400
600
800
1000
1200
1400
1600
1
2
3
4
5
6

FIG. 14

Table 1: CPUs of ERAs Applied to VLM (ROM I.)

N_i	Pulse/ERA	SCI/ERA
1	12.3 *sec* (92)	6.7 *sec* (89)
2	74.8 *sec* (180)	16.6 *sec* (182)
3	150.8 *sec* (221)	20.6 *sec* (226)
4	327.8 *sec* (297)	28.2 *sec* (298)
5	762.3 *sec* (336)	43.7 *sec* (340)
6	1,525.5 *sec* (395)	63.2 *sec* (413)

NOTE: Number in ( ) is the size of ROM.

Table 2: CPUs of ERAs Applied to VLM (ROM II.)

N_i	Pulse/ERA	SCI/ERA
1	6.3 *sec* (92)	6.8 *sec* (89)
2	32.8 *sec* (169)	17.00 *sec* (167)
3	65.9 *sec* (215)	21.0 *sec* (214)
4	130.1 *sec* (258)	27.6 *sec* (257)
5	279.6 *sec* (304)	44.1 *sec* (305)
6	540.4 *sec* (316)	61.4 *sec* (329)

NOTE: Number in ( ) is the size of ROM.

FIG. 15

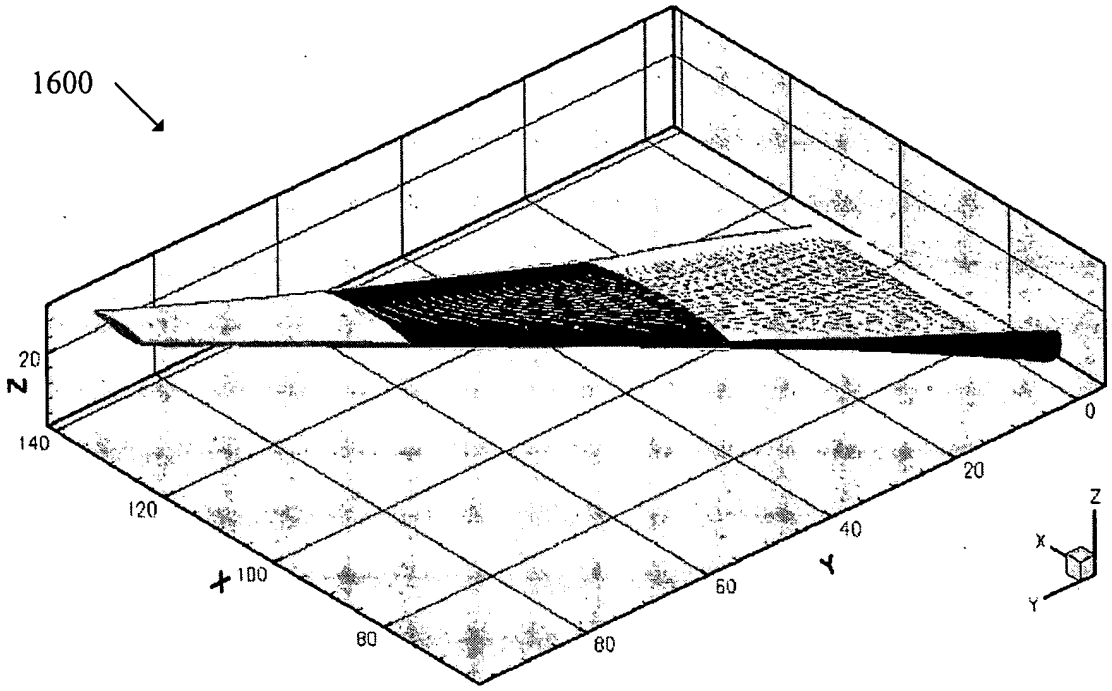
1600
Z
20
140
120
100
80
X
80
60
40
20
0
Y
Z
X
Y

FIG. 16

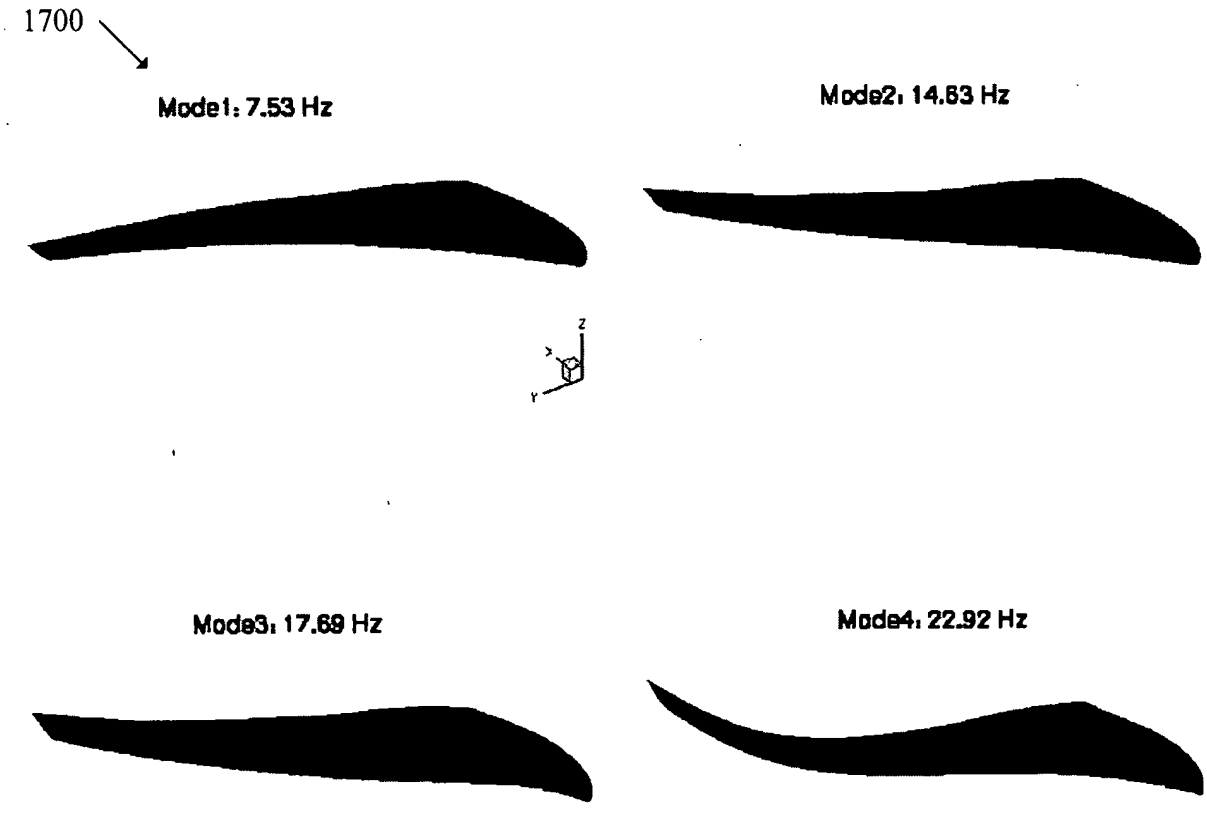
1700
Mode1: 7.53 Hz
Mode2: 14.83 Hz
Z
X
Y
Mode3: 17.69 Hz
Mode4: 22.92 Hz

FIG. 17

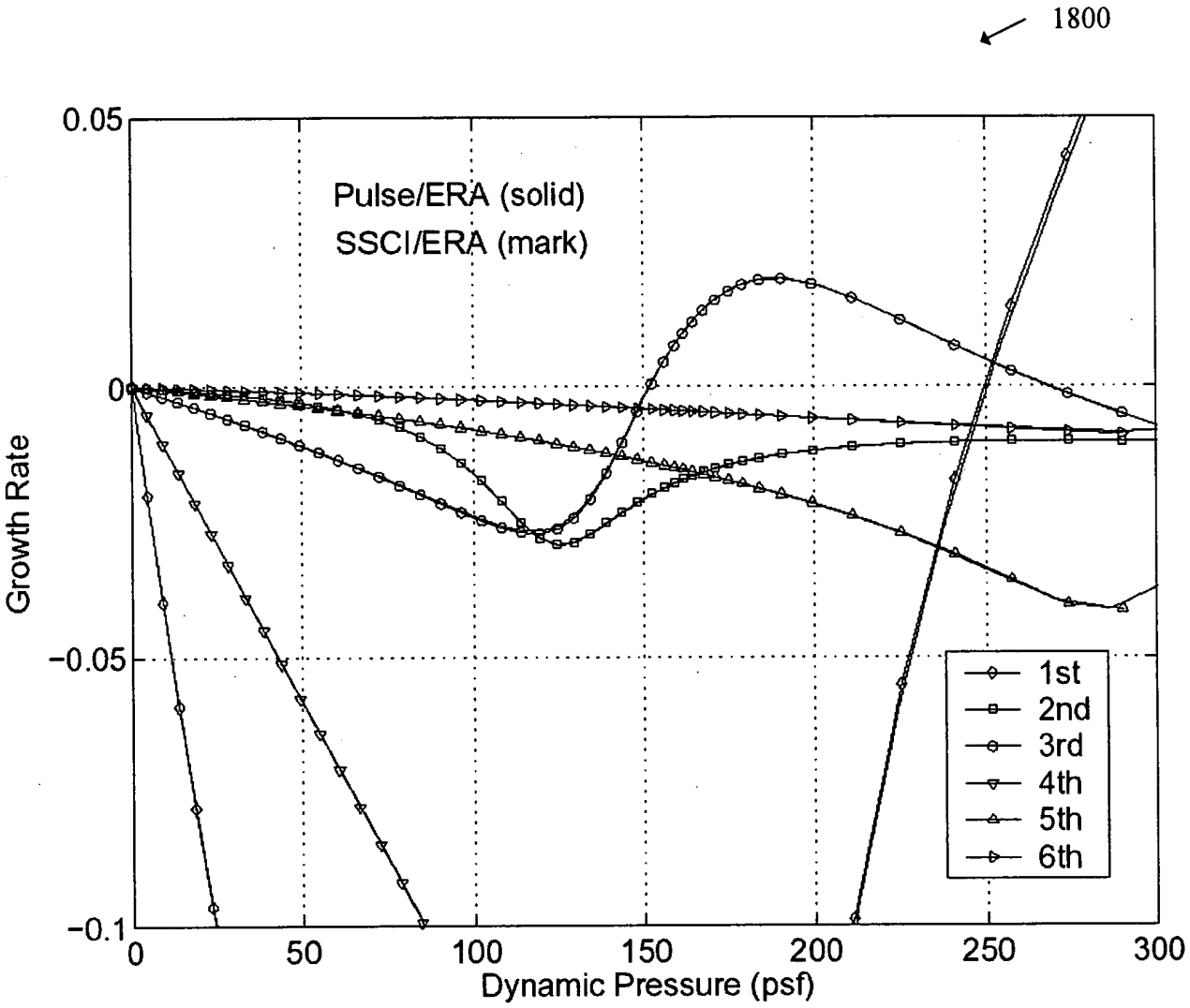
1800
Pulse/ERA (solid)
SSCI/ERA (mark)
Growth Rate
Dynamic Pressure (psf)
0.05
0
−0.05
−0.1
0
50
100
150
200
250
300
1st
2nd
3rd
4th
5th
6th

FIG. 18